ENVIRONMENTAL POLLUTION

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ENVIRONMENTAL POLLUTION

Aims and Scope:
Environmental Pollution is an international journal that addresses issues relevant to the nature, distribution and ecological effects of all types and forms of chemical pollutants in air, soil and water. The Editors welcome articles based on original research, findings from re-examination and interpretation of existing data and reviews of important issues. In addition, the journal also publishes articles on new methods of detection, study and remediation of environmental pollutants.

Types of Contributions:

- Research articles
- New initiatives–a new format for rapid publication
- Rapid communications
- Short contributions
- Reviews
- Commentary
- Letters to the Editor
- Special issue proposals are also considered

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73 Immunotoxicity risks associated with land-treatment of petrochemical wastes revealed using an in situ rodent model
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89 Clonal differences in copper and zinc tolerance of birch in metal-supplemented soils
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183 Relationships between ambient geochemistry, watershed land-use and trace metal concentrations in aquatic invertebrates living in stormwater treatment ponds
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201 Differences in Cd elimination from *Mytilus californianus* and *Mytilus trossulus* soft tissues
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209 Cadmium(II) removal from aqueous solutions by pre-treated biomass of marine alga *Padina* sp.
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221 Relevance of element content of bark for the distribution of epiphytic lichens in a montane spruce forest affected by forest dieback
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311 Chlorinated pesticides and PCBs in sediments and molluscs from freshwater canals in the Hanoi region
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101 Status of persistent organic pollutants in the sediment from several estuaries in China
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113 Mercury concentrations in deer mouse (*Peromyscus maniculatus*) tissues from Isle Royale National Park
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119 Effect of composting on characterization and leaching of copper, manganese, and zinc from swine manure
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129 Toxicological response of a bioluminescent microbial assay to Zn, Pb and Cu in an artificial soil solution: relationship with total metal concentrations and free ion activities
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137 Is it possible to develop a QSPR model for direct photolysis half-lives of PAHs under irradiation of sunlight?
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145 Elemental concentrations in different species of seaweeds from Loreto Bay, Baja California Sur, Mexico: implications for the geochemical control of metals in algal tissue
I. SÁNCHEZ-RODRÍGUEZ (Mexico), M.A. HUERTA-DIAZ (USA), E. CHOUMILINE, O. HOLGUÍN-QUIÑONES, J.A. ZERTUCHE-GONZÁLEZ (Mexico)
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161 Flue gas desulfurization by-products additions to acid soil: alfalfa productivity and environmental quality
L. CHEN, W.A. DICK, S. NELSON (USA)
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169 Environmental cadmium exposure and metabolic responses of the Nile tilapia, *Oreochromis niloticus*
J.A. ALMEIDA, E.L.B. NOVELLI, M. DAL PAI SILVA, R. ALVES JÚNIOR (Brazil)
Environmental cadmium exposure and metabolic reponses of the Nile tilapia Oreochromis niloticus.

177 Methane emissions from wastewater management
M. EL-FADEL, M. MASSOUD (Lebanon)
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187 Growth and yield responses of spring wheat (*Triticum aestivum* L. cv. Minaret) to elevated CO_2 and water limitation
M. SCHÜTZ, A. FANGMEIER (Germany)
Growth and yield of wheat respond to CO_2 enrichment, to soil water deficit and to soil nutrient availability in a different manner, with CO_2 mitigating soil drought effects.

195 The acute toxicity of agricultural surfactants to the tadpoles of four Australian and two exotic frogs
R.M. MANN (Australia), J.R. BIDWELL (USA)
Are frogs at risk from the toxic effects of agricultural surfactants?

207 Distribution of organochlorine pesticides in sediments from Kyeonggi Bay and nearby areas, Korea
K.T. LEE (South Korea), S. TANABE (Japan), C.H. KOH (South Korea)
The geographic distribution of organochlorine pesticides in sediments in Kyeonggi Bay, Korea was determined.

215 A tunable diode laser system for ammonia flux measurements over multiple plots
J.S. WARLAND, G.M. DIAS, G.W. THURTELL (Canada)
A tunable diode laser system for ammonia measurements was successfully field tested in an experiment where ammonia fluxes were continuously monitored over three differently managed adjacent plots for about 2 weeks.

223 Response of mycorrhizal Norway spruce seedlings to various nitrogen loads and sources
I. BRUNNER, S. BRODBECK (Switzerland)
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235 Precipitation chemistry in the coast of the Metropolitan Region of Rio de Janeiro, Brazil
W.Z. DE MELLO (Brazil)
Rainwater analyses provide essential data for future estimates of regional biogeochemical cycles and impacts of acidic deposition on tropical ecosystems.

243 Temporal and biogeographic comparisons of PCBs and persistent organochlorine pollutants in the blubber of fin whales from eastern Canada in 1971–1991
K.E. HOBBS, D.C.G. MUIR (Canada), E. MITCHELL (USA)
Temporal trends of PCB cogeners and organochlorine pesticides in fin whales between the 1970s and the 1990s are consistent with those in other marine animals in Atlantic Canada.

255 Contamination of polycyclic aromatic hydrocarbons in surface sediments of mangrove swamps
N.F.Y. TAM, L. KE, X.H. WANG, Y.S. WONG (Hong Kong)
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265 Organochlorine compounds in common dolphins (*Delphinus delphis*) from the Atlantic and Mediterranean waters of Spain
A. BORRELL, G. CANTOS, T. PASTOR, A. AGUILAR (Spain)
Analysis of common dolphin blubber tissue suggests that organochlorines are unlikely to have been important in recent population declines in the Mediterranean.

275 Lead and zinc in sediments and biota from Maarmorilik, West Greenland: an assessment of the environmental impact of mining wastes on an Arctic fjord system
T.S. LARSEN, J.A. KRISTENSEN, G. ASMUND, P. BJERREGAARD (Denmark)
Metals from a closed mine remain in sediments and can affect the marine biota.

285 Trace metal accumulation and fish pathologies in areas affected by mining and metallurgical enterprises in the Kola Region, Russia
T.I. MOISEENKO, L.P. KUDRYAVTSEVA (Russia)
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299 Influence of illegal gold mining on mercury levels in fish of North Sulawesis Minahasa Peninsula, (Indonesia)
J.L. KAMBEY (Indonesia), A.P. FARRELL, L.I. BENDELL-YOUNG (Canada)
Fish exposed to run-off from illegal gold mines in Indonesia have very high levels of mercury and pose a risk to human consumers.

Research papers

303 Interspecific variation in heavy metal body concentrations in Hong Kong marine invertebrates
G. BLACKMORE (Hong Kong)
Accumulated body concentrations of copper and zinc, but not cadmium, varied among nineteen species of intertidal invertebrates near Hong Kong.

313 Multivariate statistical and GIS-based approach to identify heavy metal sources in soils
A. FACCHINELLI, E. SACCHI, L. MALLEN (Italy)
Multivariate statistics and GIS were successful in identifying heavy metal sources on a regional scale.

325 Biochemical changes in needles of *Pinus radiata* D. Don trees in relationship to long-term ozone exposure indices
I. CALZADA, J. MESANZA, H. CASADO, F.J. CASTILLO (Spain)
Peroxidase activity is a short-term indicator, ascorbate is an intermediate indicator and sulfhydryl is a long-term indicator of exposure of Pinus radiata *to ozone*

337 Intraspecific competition in populations of *Helix aspersa* with different histories of exposure to lead
A. BEEBY, L. RICHMOND (UK)
A past exposure to Pb does not confer a competitive advantage to snails in growth trials.

345 Rare earth elements in naturally grown fern *Dicranopteris linearis* in relation to their variation in soils in South-Jiangxi region (Southern China)
W. ZHENGGUI, Y. MING, Z. XUN, H. FASHUI, L. BING, T. YE, Z. GUIWEN, Y. CHUNHUA (Peoples Republic of China)
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357 Selected trace metals in oysters (*Crassostrea iridescens*) and sediments from the discharge zone of the submarine sewage outfall in Mazatlán Bay (southeast Gulf of California): chemical fractions and bioaccumulation factors
M. SOTO-JIMÉNEZ, F. PÁEZ-OSUNA, F. MORALES-HERNÁNDEZ (Mexico)
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371 The ability of apoplastic ascorbate to protect poplar leaves against ambient ozone concentrations: a quantitative approach
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383 Airborne uranium contamination — as revealed through elemental and isotopic analysis of tree bark
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389 Accumulation status of persistent organochlorines in albatrosses from the North Pacific and the Southern Ocean
K.S. GURUGE, M. WATANABE, H. TANAKA, S. TANABE (Japan)
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399 Full life-cycle toxicity assessment using rotifer resting egg production: implications for ecological risk assessment
B.L. PRESTON, T.W. SNELL (USA)
Partial life-cycle toxicity tests are not sufficient to detect ecologically relevant adverse effects of anthropogenic toxicants in an aquatic invertebrate.

407 Changes in the leachability of metals from dredged canal sediments during drying and oxidation
S.R. STEPHENS, B.J. ALLOWAY, A. PARKER, J.E. CARTER, M.E. HODSON (UK)
Metal mobilization from contaminated dredged sediments is enhanced by drying and oxidation.

415 Levels of short and medium chain length polychlorinated *n*-alkanes in environmental samples from selected industrial areas in England and Wales
C.R. NICHOLLS, C.R. ALLCHIN, R.J. LAW (UK)
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431 A comparison of indigenous mosses and topsoils for use in monitoring atmospheric heavy metal deposition in Galicia (northwest Spain)
J.A. FERNÁNDEZ, A. CARBALLEIRA (Spain)
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443 Response of mosses to the heavy metal deposition in Poland — an overview
K. GRODZIŃSKA, G. SZAREK-LUKASZEWSKA (Poland)
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453 Sodic soils reclaimed with by-product from flue gas desulfurization: corn production and soil quality
S. CHUN, M. NISHIYAMA, S. MATSUMOTO (Japan)
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461 Airborne heavy metal pollution and its effects on foliar elemental composition of *Empetrum hermaphroditum* and *Vaccinium myrtillus* in Sør-Varanger, northern Norway
C. UHLIG, O. JUNTTILA (Norway)
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471 Biological monitoring: lichens as bioindicators of air pollution assessment — a review
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9 The effect of salinity on the emergence and seedling growth of *Picea mariana*, *Picea glauca*, and *Pinus banksiana*
C. CROSER, S. RENAULT, J. FRANKLIN, J. ZWIAZEK (Canada)
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17 Cd and Zn concentrations in small mammals and willow leaves on disposal facilities for dredged material
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23 A field study on EROD activity and quantitative hepatocytological changes in an immature demersal fish
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65 Gross fluxes and estuarine behaviour of pesticides in the Scheldt Estuary (1995–1997)
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123 Lysosomal and lipid alterations in the digestive gland of mussels, *Mytilus galloprovincialis* (L.) as biomarkers of environmental stress
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139 Assessment of air pollution in Nagasaki city: determination of polycyclic aromatic hydrocarbons and their nitrated derivatives, and some metals
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239 Influence of extreme pollution on the inorganic chemical composition of some plants
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253 Evaluation of cadmium and other metal losses from various municipal wastes during incineration disposal
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261 Methane fluxes from differentially managed grassland study plots: the important role of CH_4 oxidation in grassland with a high potential for CH_4 production
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275 Fluoride accumulation in pasture forages and soils following long-term applications of phosphorus fertilisers
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283 Chlorophyll *a* fluorescence, antioxidant enzymes and lipid peroxidation in tomato in response to ozone and benomyl
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291 Phenolic xenoestrogens in surface water, sediments, and sewage sludge from Baden-Württemberg, south-west Germany
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303 Arsenic accumulation in the liver tissue of marine mammals
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